ABSTRACT OF THE DISCLOSURE

A gas-fired water heater has a combustion chamber with a bottom wall defined by a perforated flame arrestor plate forming a portion of a flow path through which combustion air may be supplied to a burner structure within the combustion chamber. During firing of the water heater a combustion air shutoff system having a heat-frangible temperature sensing structure disposed within the combustion chamber senses an undesirable temperature increase in the combustion chamber, caused by for example a partial blockage of the flow path, and responsively terminates further air flow into the combustion chamber, thereby shutting down the burner, prior to the creation in the combustion chamber of a predetermined elevated concentration of carbon monoxide.